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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/060,965	10/19/2001	Martin de Tezanos Pinto	04813.0013.NPUS00	7892
27240	7590	05/23/2005	EXAMINER	
HOWREY SIMON ARNOLD & WHITE, LLP - OC 301 RAVENSWOOD AVENUE BOX 34 MENLO PARK, CA 94025			LEWIS, BEN	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/060,965

Applicant(s)

MARTIN PINTO

Examiner

Ben Lewis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/25/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "porosity of and flow of reaction solution" and the term "sufficiently" are not defined by their claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention. Claim 2 is withdrawn from consideration.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1-33 are rejected under 35 U.S.C. 102(b) as being unpatentable by Gutierrez et al (U.S. Patent No. 6,162,555).

With respect to claim 1, 21 and 30 Gutierrez et al disclose a particle feeding apparatus for electrochemical powder source wherein one embodiment of the mechanism provides an input of electrolyte and electrochemically active particles into one or more electrochemical cells through a feed tube (See Abstract). The present invention relates to a fuel particle feeding apparatus that provides zinc fuel particles into a rechargeable zinc/air power source (Col 1 lines 5- 11). A key aspect of the present invention is a fuel particle feed system in which particles are dispensed into cavities by a flow, whether fluid, pneumatic, or liquid, into and parallel to the plane of the cell cavities (Col 3 lines 52-58). A key objective of the present invention is to prevent channel blockage and to prevent electrode and cell damage from excessive electrolyte pressure. The present invention accomplishes this objective through a novel feed tube and an electrolyte bypass feature (Col 4 lines 22-27). The system for transferring particles further comprises a fluid bypass, wherein said bypass pierces a portion of said feed tube through a wall of said feed tube, and further wherein said bypass is open to said input of fluid or fluid and particles in said feed tube. (See claim 11, Gutierrez et al.)

With respect to claim 3, Gutierrez et al teaches that it is an object of this present invention to provide a fuel particle feeding mechanism that will prevent clogging by fuel particles during refueling. Another object is to prevent mounding of particles in the cell cavities. Still another object is to achieve substantially uniform distribution of particles within the cell cavities (Col 3 lines 32-40).

With respect to claims 4,10,16 and 17, Gutierrez et al teaches a recirculating zinc power source. (see Fig 1.)

With respect to claims 5, 7 and 19, Gutierrez et al teaches that the present invention relates to a fuel particle feeding apparatus that provides zinc fuel particles into a rechargeable zinc/air power source (Col 1 lines 5- 11).

3. With respect to claims 6 and 20, It is well known in the art that potassium hydroxide is used in zinc air power systems as evidenced by Faris et al. (U.S. Patent No. 6,558,825 B1)

4. With respect to claim 9 and 10, It is well known in the art that zinc/air power sources can be connected in series or parallel.

With respect to claim 18, Gutierrez et al disclose a zinc power source in claim 1 above. It is well known in the zinc power source art that the physical properties of zinc particles change upon anodic dissolution as evidenced by Cooper (U.S. Patent No. 5,434,020)

With respect to claims 11-14, 23-26, and 32, Gutierrez et al teach that compared to conventional methods, the system achieves a more complete and more uniform distribution of particles within the cell cavities, and avoids mounding of the particles in the cell cavities (Col 4 lines 5-9). The instant specification recites that in order to facilitate efficient function of, and/or to limit substantially nonuniform accumulation of reaction products within the cell cavities of, a particle-based electrochemical power source utilizing a flowing anode bed, it can be desirable to maintain a predetermined porosity through the flowing anode bed. Gutierrez et al do not specifically disclose maintaining a predetermined porosity. However, it is the position of the examiner that such properties are inherent, given that both Guitierrez et al and the present application

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utilize the same active material directing means. Applicant is advised to submit other information with respect to the porosity of the active material, if its shown to be patentably distinct from the instant invention. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. In re Robertson, 49 USPQ2d 1949 (1999).

With respect to claim 33 Gutierrez et al teach that the electrolyte bypass channel is needed under conditions of over pressure and reduced flow rate in the feed tube near the end of the particle fueling operation. . The instant specification recites that in one implementation, the flow rate of electroactive particles through the cell cavity, measured as $0.3 \text{ cm}^3/\text{s}$, is not faster than one tenth of the flow rate of the electrolyte fluid, as measured by its superficial velocity through the cell cavity. Gutierrez et al do not specifically disclose maintaining a specific superficial velocity. However, it is the position of the examiner that such properties are inherent, given that both Gutierrez et al and the present application utilize the same active material directing means. Applicant is advised to submit other information with respect to the porosity of the active material, if its shown to be patentably distinct from the instant invention. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. In re Robertson, 49 USPQ2d 1949 (1999).

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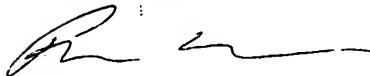
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben Lewis whose telephone number is 571-272-6481.

The examiner can normally be reached on 8:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ben Lewis



Patent Examiner
Art Unit 1745



DAH-WEIYUAN
PRIMARY EXAMINER